

# Vegetable Gardening in San Francisco

San Francisco's climate makes vegetable gardening a sometimes challenging, but mostly rewarding experience. We can't grow many of the warm weather crops because our summers are foggy and cool. However, we do have the advantage of mild, generally frost-free winters and the possibility of growing cool season crops year round. Additionally, the warmer months of September and October often extend our summer harvests into November.

## PREPARE

### **Microclimate**

Pay attention to your microclimate! The side of town you are on, or even which side of the yard you plant in can make a big difference in what you can grow. Wind, fog, and heat make a big difference to your plants' vigor.

### **Weeds**

Weeding is easier when the soil is moist, and much more effective before the weeds have gone to seed. The first winter rains usually bring weeds in December and January. Mulching with wood chips or straw after weeding will help prevent more weed seeds from germinating.

### **Soil and Fertilization**

Test your soil for nutrients (N-P-K,) texture, pH, and lead – especially if you are growing food. Prepare your soil for spring and summer growth by adding lots of compost and other appropriate organic soil amendments. Consider planting a cover crop to let your soil rest in the winter or even in the summer. Winter cover crops include: fava beans, bell beans, ogle oats, winter wheat, and alfalfa. Buckwheat is a good summer cover crop.

## PLANT

### **Starting from Seed vs. Buying Starts from the Nursery**

How much preparation time do you have? Do you have a place to start seeds where they will be watered daily, protected from cold/wind/rain and will get enough heat to germinate, and light to grow? Many summer vegetables can be started in the greenhouse in March, such as tomatoes and basil, others do better to plant directly into the soil in April or May, such as beans and squash.

### **Pick Healthy Nursery Plants**

When you buy plants at the nursery, look for multiple shoots and leaves, not necessarily for flowers or fruits. Very young plants should have healthy root growth, and not be fruiting or flowering. Also, you may have to separate the many seedlings growing in one cell.

### **Read Seed Packets**

Look for essentials such as planting depth, spacing, germination requirements, etc., but bear in mind that planting times and days to maturity may not be accurate for our S.F. climate.

### **Basics of Planting Seeds**

Seeds should be planted according to package, but a general rule of thumb is to plant seeds at a depth of 2-3 times the diameter. When choosing whether to direct sow or plant in the greenhouse, remember that certain plants react poorly to transplanting (root vegetables.)

## When to Plant

*January/February/March:* bare root vegetables and fruits (edible perennials such as artichoke, rhubarb, strawberries, raspberries, asparagus) perennial herbs, hardy greens, onions, potatoes, and leeks.

*April/May/June/July:* basil, cilantro, beans, squash, tomatoes, sunflowers, and other summer flowers.

*September/October:* winter vegetables such as kale, chard, broccoli and root crops.

*November/December:* onions, garlic, and edible perennials once again (to take advantage of the rainy season).

## Varieties

Choosing early maturing varieties can bring success with hard to grow vegetables, especially those that require summer heat. Other varieties provide resistance to certain diseases.

## PROSPER

### Water

Consider installing an irrigation system with drip emitters, which will deliver water regularly and to the roots of plants, thus preventing many plant diseases. Most gardens do not need additional irrigation during the months of December through February (or longer in a rainy year). However, container gardens and annual vegetables need more attention than perennial plantings.

### Pests and Diseases

During the rainy season, slugs and snails will do the most damage in the garden. During the warmer months, look out for aphids, tomato blights and wilts, powdery mildew, cabbage moths, beet leaf miner, and whitefly. Non-toxic methods such as early detection, appropriate pruning, proper watering, and garlic sprays can control these pests.

### Pay Attention

Visit your garden regularly. The best way to grow healthy plants is to prevent pest and disease problems before they grow out of control. The more often you are in your garden, the more you will learn about your plants' life cycle and how to best care for them.

## RESOURCES

**The University of Massachusetts at Amherst**, inexpensive, thorough soil tests.

<http://www.umass.edu/soiltest>

**The Urban Farmer Store** 2833 Vicente St. San Francisco, CA <http://www.urbanfarmerstore.com/>

**Broadmoor Landscape Supply**, South San Francisco, CA <http://www.broadmoorlandscape.com/>

**Bay View Greenwaste**, 1300 Carroll Ave, San Francisco, CA (415) 822-7686

**American Soil**, Richmond, CA [www.americansoil.com](http://www.americansoil.com)

**Independent Nature**, 1504 Church St. San Francisco, CA (415) 642-1708

**Flowercraft Garden Center**, 550 Bayshore Blvd. San Francisco, CA <http://www.flowercraftgc.com/>

**Sloat Garden Center**, many locations San Francisco, CA <http://www.sloatgardens.com/>

**Bay Area Seed Interchange Library (BASIL)** Berkeley Ecology Center <http://ecologycenter.org/basil/>

**Seeds of Change** [www.seedsofchange.com](http://www.seedsofchange.com)

**Renee's Garden** [www.reneesgarden.com](http://www.reneesgarden.com)

**Botanical Interests** [www.botanicalinterests.com](http://www.botanicalinterests.com)

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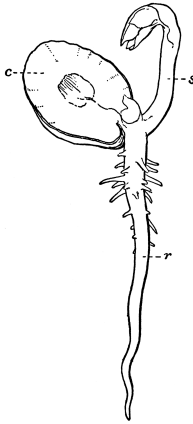
# Seed Starting

## ***Why sow your own seeds?***

- Cost – sowing your own seeds saves money spent on transplants
- Type of crop – because the type of plant you want to grow grows best when sown from seed
- Timing – to allow for better control over timing/crop planning in your garden
- Promotes biodiversity – growing different varieties contributes to greater preservation of genetic, species, and ecosystem diversity
- Enthusiasm – starting your own seeds connects you in to the whole cycle!

## ***What is a seed?***

1. embryo
2. endosperm (food supply)
3. seed coat



## GERMINATION REQUIREMENTS

**Temperature-** The minimum soil temperature required for warm season crops is generally 60°F and for cool season crops, 40°F. However, ideal soil temperature for germination of warm season crops is generally 80-90°F, and for cool season crops, 70-80°F.

**Soil-** Soil provides structure and nutrients to young seedlings.

**Light-** This can be tricky. Do the seeds need light to germinate? Or darkness? Lettuce needs light, while alliums (members of the onion family) are sometimes inhibited by light. This is not to be confused with seedling light requirements.

**Moisture-** Seeds need to be kept moist... but not wet! Damping-off disease is a general term used to describe several different seed/seedling diseases resulting in stem rots near the soil surface, seed decay in the soil before or after germination, and/or roots rotting after the plant has started growing.

## SELECTING SEEDS

### ***Open pollinated or hybrid?***

Open pollinated – Open-pollinated seeds can be either self-pollinated or cross-pollinated. They are produced when a parent plant is fertilized by another member of the same genetically stable population. The offspring will resemble the parents selected from plants that are most like desired ones and therefore, if you are planning on saving seed, open-pollinated is what you want.

Hybrid (F<sub>1</sub>)– Hybrid seeds are the result of cross-pollination between two different but homogeneous inbred stable lines, each of which contributes desirable characteristics to the subsequent generation. Hybrids offer the advantage of uniformity (with respect to flavor, performance, yield, pest-resistance, quality, etc.) and can also result in “hybrid vigor”, an increase in vigor associated with crossing genetically diverse plants. Seed saved from a hybrid plant will not resemble the parent.

## ***Interpreting seed catalogs for our climate***

- Cool-season crops – If growing early in the year, look for heat-tolerant varieties. For fall plantings sown in the summer look for cold tolerant varieties.
- Warm season crops – Look for varieties that are tolerant of cooler summers like ours or are quick to mature. Avoid varieties that thrive in short hot summers, as they won't necessarily do well in our cooler weather.
- Disease resistance – Many varieties have resistance to pests and diseases prevalent in our area. Starting with resistance in your seeds is one of the first strategies in a sound Integrated Pest Management program resulting in stronger, healthier, and more resilient plants.

## ***Why Direct sow? Why Transplant?***

Direct sow for:

1. Less root disturbance. Root crops and crops with taproots (like spinach) as well as some large-seeded crops (such as corn, beans and peas) experience greater stress in transplanting.
2. Saving on time. Direct sowing doesn't require the extra step (and therefore, time) of transplanting.
3. Because you want to sow a "cut and come again" crop. In sowing mixed greens for a salad mix, the utter impracticality of transplanting baby lettuces in that density hardly warrants explanation – it just wouldn't be done.
4. Because it requires less equipment. Seeds and garden space are all that's needed– no potting soil, seeding containers, indoor space, etc.

Transplant to:

1. Increase your growing season. Transplanting allows for getting a jump on the season.
2. Increase production from the garden. When a crop is finished, you have another crop already 6 weeks along or older going behind it in its place.
3. Conserve resources. In the greenhouse you use less water, less space, and have less weed competition.
4. Protect young seedlings. Transplants are generally more immune to disease and less susceptible to damage from intense weather and insects.

## ***Tips for seed sowing success***

- Make sure your soil is not too dry. Water your soil the day before so it doesn't absorb the water away from your seeds.
- Don't overwater! Be sure to allow for a "wet/dry" swing once the seeds have germinated.
- Germinate at the proper temperature. Most seeds like to germinate at temperatures between 65 and 80°F.
- Plant at the proper depth. The general rule of thumb for seed depth is = 2 ½ x the seed diameter.
- Ensure proper drainage. If planting indoors, be sure that whatever you are planting in has adequate holes for drainage and that your potting soil is well-draining.
- Oversow to account for culls. When sowing indoors, sow 20% extra to allow for poor germination and another extra 20% to allow for losses associated with transplanting. When direct sowing outdoors, the general rule of thumb for seeding density is 2-3X the density desired at maturity. Thin once first true leaves have developed.

## Vegetable Crops and the Region's Microclimates

**All-Region List:** Crops that are likely to flourish in all areas covered by the book. In inland areas, some of these crops are better grown in cooler parts of the year.

**Moderate Fog List:** Crops that need a bit more warmth and sunlight, so will not thrive in the foggiest areas.

### All-Region List

Artichoke  
Arugula  
Asparagus  
Bean, scarlet runner\*  
Bean, fava  
Beet  
Bok choy  
Broccoli  
Cabbage  
Carrot  
Cauliflower  
Celeriac  
Celery  
Chayote squash  
Chervil  
Cilantro  
Florence fennel  
Garlic  
Greens (mustard, chard, collards, kale, etc.)  
Ground cherry  
Herbs, perennial  
Kohlrabi  
Leek  
Lettuce  
Onion  
Parsley  
Parsnip  
Pea (including snap and snow peas)  
Potato  
Pumpkin\*  
Radicchio  
Radish  
Salsify  
Spinach  
Spinach, New Zealand  
Squash, summer\*  
Squash, winter\*  
Sunchoke\*  
Sunflower\*

**Less Fog List:** Crops that will produce a satisfactory harvest only in the warmest parts of the near-coastal region, or in more inland areas away from coastal influence.

**Inland Microclimate List:** Crops that will thrive only in warm-summer inland microclimates, away from most of the coastal influence.

Tomato (cherry) (borderline)  
Turnip  
Watercress

### Moderate Fog List

Amaranth\*  
Basil\*  
Bean, snap (bush and pole)\*  
Corn (short-season varieties)\*  
Cucumber\*  
Tomato (cherry and very short-season varieties)\*  
Tomatillo\*

### Less Fog List

Bitter melon\*  
Corn (most varieties)\*  
Eggplant (early)\* (borderline)  
Tomato (midseason varieties)\*  
Pepper (especially cool-tolerant varieties)\* (borderline)  
Winter melon\*

### Inland Microclimate List

Bean, asparagus (yard-long bean)\* and black-eyed pea\*  
Cucumber (Asian varieties)\*  
Eggplant\*  
Jicama\*  
Melon\*  
Okra\*  
Pepper\*  
Spinach, Malabar\*  
Sweet potato\*  
Tomato (late-season varieties)\*

*\*warm-season crop  
(the rest are cool-season crops)*



## Planting Times for Foggy Microclimates

	January	February	March	April	May	June	July	August	September	October	November	December
Artichoke (bareroot)												
Bean, fava												
Bean, scarlet runner												
Bean, snap (bush)												
Bean, snap (pole)												
Beet												
Broccoli (plants)												
Brussels sprouts (plants)												
*Cabbage (plants)												
Carrot									?			
*Cauliflower (plants)										?		
Celery (plants)									?			
Chayote squash												
*Chinese cabbage							?			?		
Collards										?		
Corn, sweet (early)												
Cucumber												
Eggplant (plants)												
Garlic (sets)												
Kale (plants)										?		
Kohlrabi (plants)									?			
*Leek												
Lettuce												
Melon												
Mustard											?	
*Onion, bulb (seeds)												



	January	February	March	April	May	June	July	August	September	October	November	December
Onion, bulb (sets)	Heavily shaded	Heavily shaded	Heavily shaded									
Parsnip		Lightly shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Lightly shaded			
Pea		Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Lightly shaded	Lightly shaded	Lightly shaded	Heavily shaded	
Pepper (plants)					Heavily shaded	Heavily shaded	Heavily shaded					
Potato (tubers)		Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Lightly shaded			
Radish (small)	Lightly shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Lightly shaded	Lightly shaded	Lightly shaded
*Radish (winter)	Lightly shaded	Lightly shaded					Lightly shaded	Heavily shaded	Lightly shaded	Lightly shaded		
Rhubarb (bareroot)	Heavily shaded											Heavily shaded
Shallot (sets)	Lightly shaded	Lightly shaded									Heavily shaded	Lightly shaded
*Spinach		Heavily shaded	Lightly shaded	Lightly shaded	Lightly shaded		Lightly shaded	Lightly shaded	Lightly shaded	Lightly shaded	Lightly shaded	
Squash, summer			Lightly shaded	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded					
Squash, winter (and pumpkin)				Heavily shaded	Heavily shaded	Heavily shaded						
Sunflower				Heavily shaded	Heavily shaded	Heavily shaded						
Sunchoke (tubers)	Lightly shaded	Lightly shaded	Heavily shaded	Heavily shaded	Heavily shaded	Lightly shaded						
Swiss chard	Lightly shaded	Lightly shaded	Heavily shaded	Heavily shaded	Lightly shaded	Lightly shaded	Heavily shaded	Heavily shaded	Lightly shaded	Lightly shaded		
Tomato (plants)	Lightly shaded	Lightly shaded	Lightly shaded	Heavily shaded								
Turnip	Heavily shaded	Heavily shaded	Heavily shaded	Heavily shaded	Lightly shaded	Lightly shaded	Heavily shaded	Heavily shaded	Lightly shaded	Lightly shaded		

**KEY:**



A heavily shaded area means it is okay to plant this crop at these times.



A lightly shaded area means that these times will work for some varieties, in some locations and/or in some years.



A question mark (?) means that you may sometimes be able to extend planting times even beyond the end of the lightly shaded area, though not commonly.

\*

An asterisk before the name of a crop (\*) means that varieties of the crop have widely differing preferred planting times. For example, most winter radishes should be planted from midsummer into fall, but some varieties can be planted in the spring.